

WHAT IS CLAIMED IS:

1. Recyclable heat-sealable multi-layer material suitable for the production of containers for beverages and foods, comprising a layer formed of a polyester resin foamed sheet having density lower than  $700 \text{ kg/m}^3$  and, adhered to the foamed sheet, a heat-sealable film of polyester resin, said material having creased on it a pattern suitable to develop by folding the shape of a container.
2. Multi-layer material according to claim 1 in which the polyester film is obtained from a low melting polyester having a melting point from  $50^\circ$  to  $200^\circ\text{C}$ .
3. Multi-layer material according to claim 2 in which the polyester film is obtained from a resin with melting point from  $80$  to  $110^\circ\text{C}$ .
4. Material according to claim 1 in which the polyester film is a coextruded dual layer film, one layer of which is formed of a low melting polyester having a melting point from  $50^\circ$  to  $200^\circ\text{C}$  and the other layer is a polyester having a melting point higher than  $200^\circ\text{C}$ .
5. Multi-layer material according to claim 1 in which the polyester film is a film subjected on one side to a treatment capable to impart gas barrier properties or coated with a layer of material having gas barrier properties.
6. Material according to claim 5 in which the polyester film having barrier properties presents oxygen permeation rate lower than  $70 \text{ ml/m}^3/24\text{h/atm}$  (ASTM 1434).
7. Material according to claim 6 in which the polyester film is metallized with Al or coated with a layer of aluminum or silicon oxide.
8. Multi-layer material according to claim 6 in which the polyester film is coated with a layer of potassium or lithium polysilicates.
9. Material according to claim 1 in which the polyester film is obtained from a copolyethylene terephthalate in which more than 10% of the units deriving from terephthalic acid are substituted with units deriving from

isophthalic acid.

10. Multi-layer material according to claim 1 in which the polyester film is made to adhere to the foamed sheet by using a polyester glue or by hot lamination.

11. Multi-layer material according to claim 1 in which the foamed sheet has a density from 10 to 500 kg/m<sup>3</sup>.

12. Multi-layer material according to claim 1 in which the foamed sheet has a density from 100 to 200 kg/m<sup>3</sup>.

13. Multi-layer material according to claim 1 having a thickness from 0.2 to 3 mm.

14. Multi-layer material according to claim 13 having a thickness from 0.2 to 1.5 mm.

15. Multi-layered material according to claim 1 in which the polyester resin of the foam sheet is selected from polyethylene terephthalate and copolyethylene terephthalates in which up to 20 % of the units derives from isophthalic acid.

16. Containers for beverages or foods manufactured from the multi-layer material according to claim 1.

17. Containers according to claim 16 in which the layer that comes into contact with the beverage or food is made of a polyester film adhered to the foamed polyester sheet, and in which the closure is realized by heat sealing on itself the polyester film adhered to the foamed sheet.

18. Containers according to claim 17 for fruit juices or sterilized milk in which the polyester film is treated on the side adhered to the foamed sheet with a material capable of conferring barrier properties corresponding to oxygen permeation rate lower than 70 ml/m<sup>2</sup>/24h/atm.

19. Containers according to preceding claim 18 in which the oxygen permeation rate of the treated polyester film is less than 10 ml/m<sup>2</sup>/24h/atm.

20. Containers according to preceding claim 19 in which the oxygen permeation rate is less than 0.3 ml/m<sup>2</sup>/24h/atm.

B3

ADD B4

[illegible]